

TITLE 7 AGRICULTURE

CHAPTER III - BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

PART 301 - DOMESTIC QUARANTINE NOTICES

MEXICAN FRUITFLY

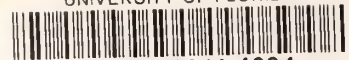
TREATMENTS AUTHORIZED

Introductory note. This revision of circular B. E. P. Q. 472 has the twofold purpose of bringing the citations of authority into line with the current regulations of the Mexican fruitfly quarantine, and of providing authorization for the low-temperature method of sterilization for the Mexican fruitfly for those in the citrus-fruit industry in Texas who desire to employ that method. Of the two heat-treatment methods authorized in the previous issue of the circular, only one is in current use, and authorization for this treatment as specified below is therefore continued with no change in method, other than the recommendation that in the use of wax or paraffine, applications of such material be made only after sterilization.

§ 301.64-4a Administrative instructions - Treatment of grapefruit and oranges for the Mexican fruitfly. Pursuant to the authority conferred upon the Chief of the Bureau of Entomology and Plant Quarantine by subsection (e) of § 301.64-4, Chapter III, Title 7, Code of Federal Regulations [regulation 4 of the regulations (third revision) supplemental to Notice of Quarantine No. 64, the Mexican fruitfly quarantine], the methods of sterilization specified below are hereby authorized, effective September 25, 1941, as a condition of the issuance of permits for interstate movement of grapefruit and oranges.

(a) Vapor-heat method. Heating the fruit for a period of not less than 14 hours during which time the fruit shall be raised to a temperature of 110° F. at the approximate center of the fruit and shall be maintained at or above that temperature for the last 6 hours of such treatment.

While no specifications as to the exact methods and equipment for obtaining these conditions are prescribed, the air within the room shall be maintained at the temperature and under the humidity conditions required by the supervising inspector. Available information clearly indicates that by the application of dry heat the required temperatures cannot be reached without injury to the fruit. To prevent such injury it is necessary to maintain a very high humidity throughout the period of treatment. In the tests where successful performance was obtained, live steam as the source of heat was applied in such a way as to secure as nearly as possible a uniform distribution of steam-heated air so directed as not to discharge directly on the fruit. The air temperature ranged from 110° to 112° F. and the air was very moist. The fruit was held in field boxes stacked four boxes high and without special means of separating the boxes in each



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stack. The experiments indicate that the fruit should be sterilized after coloring, if this is necessary, and before packing for shipment, and then cooled down to a temperature around 45° F. as soon as possible after sterilizing. Wax or paraffine, either dry or in solution, should not be applied to this fruit before sterilization.

(b) Low-temperature method. (1) Cooling until the approximate center of the fruit reaches a temperature of 33° F. and holding the fruit at or below that temperature for a period of 18 days.

(2) Cooling until the approximate center of the fruit reaches a temperature of 34° F. and holding the fruit at or below that temperature for a period of 20 days.

(3) Cooling until the approximate center of the fruit reaches a temperature of 35° F. and holding the fruit at or below that temperature for a period of 22 days.

Such treatments as specified in (a) and (b) above are authorized in sterilization or refrigeration plants in the regulated area which are approved by the Bureau of Entomology and Plant Quarantine. The Bureau will approve only those plants which are adequately equipped to handle and sterilize the fruit. Such sterilization will be done under the supervision of inspectors of the Bureau. These inspectors should at all times be given access to fruit while in process of sterilization.

While the results of the experiments so far conducted have been successful, it should be emphasized that inexactness and carelessness in operation may result in injury to fruit. In authorizing the movement of fruit sterilized in accordance with the above requirements, it is understood that the Department does not accept responsibility for fruit injury.

Done at Washington, D. C., this 19th day of September 1941.

P. N. ANNAND
Chief